

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
EASTERN DIVISION**

JACK O. CARTNER, and)	CASE NO. 1:07-cv-1589
MOTRIM, INC.,)	
)	JUDGE WELLS
Plaintiffs,)	
)	MAGISTRATE JUDGE VECCHIARELLI
v.)	
)	REPORT AND RECOMMENDATION
ALAMO GROUP, INC.,)	
)	Doc. No. 52
Defendant.)	

This case is before the magistrate judge on referral. Before the court is the motion of defendant, the Alamo Group, Inc. (“Alamo”), to declare this case a special case pursuant to 35 U.S.C. § 285 and award attorneys fees in the amount of approximately \$350,000. Motion, Doc. No. 52. Plaintiffs, Jack O. Cartner (“Cartner”) and Motrim, Inc. (“Motrim”), oppose Alamo’s motion. Response, Doc. No. 55. For the reasons given below, Alamo’s motion should be GRANTED in part and DENIED in part.

I

The parties do not dispute the following relevant facts.

A. The ‘284 patent

On March 20, 1993, the United States patent office issued to Cartner United States Patent No. 5,197,284 (“the ‘284 patent”; Complaint, Doc. No. 1, attachment 1), a patent for a “Hydraulic Motor Deceleration System.” Cartner issued an exclusive

license to Motrim for manufacture and sale of the device described by the patent.

The '284 patent describes a system for decelerating an hydraulic motor. The patent's description of the background of the invention follows:

The present invention pertains to hydraulically powered equipment. More particularly, this invention relates to the use of a deceleration circuit for a hydraulic motor.

The invention finds particular application in hydraulic motors which are used to power mowers and ditchers or the like utilized in road maintenance equipment. However, it should be appreciated that the hydraulic motor deceleration system also finds application in other equipment in which a hydraulic motor is employed.

As is well known, hydraulically driven motors are currently utilized to power mowers, ditchers and like equipment especially equipment of the type that is secured to articulated boom assemblies pivotally connected to a tractor and used to maintain the berms of roads and the like. Currently, in such equipment, when hydraulic power is shut off to the motor, the motor, and with it the grass cutting blade or ditching blade which it drives, continues to freewheel (since the control valve of the motor generally has a motoring spool) when communication is interrupted between the hydraulic pump and the motor. If, on the other hand, a non-motoring spool were to be provided, the motor would come to a precipitous stop once the control valve would be actuated to the off position so that communication would be blocked between the hydraulic pump and the motor. Neither one of these alternatives is particularly desirable. When the motor is allowed to freewheel, it does not come to a stop very quickly and the cutting blade may damage something while the boom arm to which the blade housing is secured is being moved. On the other hand, if the motor and the blade would come to a precipitous stop, great strains would be placed on the motor as well as the fasteners connecting the cutting blade to the motor and the blade would likely break its fasteners and fly off the motor.

Accordingly, it has been considered desirable to develop a new and improved hydraulic motor deceleration system which would overcome the foregoing difficulties and others by providing better and more advantageous overall results.

The '284 patent, col. 1, lines 13-54.

The '284 patent includes three principle components: a pump, an hydraulic motor, and a motor hydraulic circuit connecting the pump and the motor. See Figure 1A below.('284 patent, Abstract). The first line of the motor hydraulic circuit (14") runs from

the pump to the first control valve, then from the first control valve to an inlet of the motor. The first control valve controls the flow of fluid from the pump to the motor inlet. The second line of the circuit (24") then runs from the motor outlet back to the first control valve. Included in the first control valve is an orifice (# 76) in the fluid path that controls the flow of fluid between the first and second lines within the first control valve. An envelope in the valve (# 74) prevents fluid from flowing out of the first and second lines and also prevents fluid from flowing from the pump to the motor when the motor is disconnected from the pump.

Figure 1, attached, shows the device pictured in Fig. 1A with a second deceleration system added. The additional deceleration system is a third fluid line (# 40 in Fig. 1), connecting the line running from the outlet of the motor to the first control valve to the line running from the first control valve to the inlet of the motor. This third fluid circuit allows fluid to flow from the second line to the first line without entering the first control valve. The third fluid line includes a flow control orifice (# 44) that controls the flow of fluid.

The '284 patent relates the specifications of six embodiments of a hydraulic motor deceleration circuit (Figures 1, 1A, 1B, 2, 3, 4 of the patent)¹ and concludes with twelve claims. The patent describes the figures accompanying the claims as "illustrating preferred and alternate embodiments of the invention only and not for purposes of limiting same." ('284 patent, col 3, lines 35-37). The specification names Figure 1 as the first preferred embodiment of the hydraulic circuit diagram of a

¹ The numbered figures here refer to the figures accompanying the '284 patent.

deceleration system hydraulic circuit, Figure 3 as the second preferred embodiment, Figure 2 as the first alternate embodiment, Figure 1A as the second alternate embodiment, Figure 1B as the third alternate embodiment, and Figure 4 as the fourth alternative embodiment.

Plaintiffs' complaint alleged infringement of claims 1, 4, 5, and 12 of the '284 patent against Alamo based on Alamo's production and sale of several industrial mowers.² Claim 1 of the patent is directed to "[a] hydraulic control system"; claim 5 is directed to "[a] hydraulic motor deceleration system"; and claims 4 and 12 are both directed to "[a] method for decelerating a hydraulic motor when the motor is disconnected from a hydraulic pump." Plaintiffs alleged that certain industrial mowers made by Tiger Corporation, an operating company within Alamo, infringed Claims 5 and 12 of the '284 patent. Plaintiffs also alleged that certain industrial mowers made by Alamo Industrial, another operating company within Alamo, infringed Claim 12.

Claim 1 relates to the embodiment disclosed in Figure 1A of the '284 patent. The means-plus-function clause of claim 1 describes a hydraulic control system comprised as follows:

a means for allowing a circulation of fluid through said motor and between said first and second fluid lines when said pump is disconnected from said motor, wherein said means for allowing circulation comprises a fluid path in said second envelope of said first control valve which fluid path allows a flow of fluid therethrough without fluid loss, and a means for slowing a flow of fluid between said first and second fluid lines wherein said means for slowing comprises a flow control orifice located in said fluid path in said second envelope of said first control valve.

² The complaint also asserted infringement upon Cartner's United States Patent No. 7,185,479 ("479 patent"). Plaintiffs subsequently moved to dismiss claims of infringement based on the '479 patent from this action, and the court granted the motion.

‘284 patent, col 8, lines 5-16. Plaintiffs unsuccessfully argued in the Markman hearing that Claim 1 also related to the third fluid line depicted in Figure 1. The court found that the “means plus function” description in Claim 1 precluded relation to a system for allowing circulation through the motor and between the first and second lines if that system were outside the first control valve.

Claim 4 of the patent also relates to the embodiment disclosed in Figure 1A. This claim directs a method for decelerating a hydraulic motor when the motor is disconnected from a hydraulic pump. This method operates as follows:

slowing the speed of rotation of said motor by restricting the rate of flow of fluid through said first and second fluid lines wherein said step of slowing the speed comprises the subsidiary step of providing a flow control orifice (76) in one envelope (74) of said first valve (70), said one envelope (74) communicating said first and second hydraulic fluid lines, while preventing a flow of fluid out of said first and second fluid lines and also preventing a flow of fluid from said pump to said motor.

‘284 patent, col. 8, lines 38-47. The court has construed the term “said one envelope communicating said first and second hydraulic fluid lines” to mean “[t]he one envelope joins or connects the first hydraulic fluid line to the second hydraulic fluid line during the slowing step.” Memorandum of Opinion and Order (“Memorandum and Order”), May 21, 2008, Doc. No. 25, p. 23. The court adopted this construction to avoid any ambiguity that might allow an interpretation of Claim 4 to include the third fluid line depicted in Figure 1.

Claim 5 relates to the preferred embodiment in Figure 1. It directs a third hydraulic fluid line between the first and second fluid lines. The third fluid line includes, *inter alia*, a relief valve. It also includes a flow control orifice, described as follows:

said flow control orifice located in said third fluid line, said flow control orifice

being constantly operative, said third fluid line allowing a flow of hydraulic fluid from said second fluid line fluid line to said first fluid line even when said control valve is in a closed position, as regulated by said relief valve, and wherein said flow control orifice limits the speed with which such flow takes place.

'284 patent, col. 8-9, lines 64-5. The court construed the term "constantly operative" to mean "the flow control orifice continuously slows fluid flow when the first control valve is in the open or closed position." Memorandum and Order at 28. Moreover, the court extended this construction to the term "constantly operative" in Claim 12. Plaintiffs appealed this construction, and the Sixth Circuit vacated this construction and found that "the flow control orifice continuously slows fluid flow when there is fluid flow in the third fluid line, whether the first control valve is in the open or closed position." *Cartner, et al. v. Alamo Group, Inc.*, Case No. 2009-1097, at 7 (6th Cir. June 22, 2009).

Claim 12 of the patent relates to Figure 1 and directs a method for decelerating an hydraulic motor when the motor is disconnected from the pump. This method employs both the flow of fluid from the second fluid line to the first fluid line within the first control valve, as described in Claim 1, and also employs the flow of fluid from the second fluid line to the first fluid line through the third fluid line, as described in Claim 5.

B. Procedural history of this litigation

Plaintiffs filed a complaint on May 30, 2007 alleging that Tiger and Alamo mowers infringed on the '284 patent and United States Patent No. 7,185,479 ("the '479 patent"). On March 28, 2008, plaintiffs dismissed their claims of infringement of the '479 patent.

The court held a Markman hearing on May 13, 2008. On May 21, 2008, the court issued a Memorandum of Opinion adopting the claim constructions described above.

On June 5, 2008, plaintiffs filed a motion for reconsideration of the court's construction of "constantly operative." The court denied this motion on September 23, 2008. The parties filed a joint proposed stipulation of patent invalidity on October 24, 2008, and the court entered final judgment declaring the invalidity of claims 5 and 12 of the '284 patent on October 29, 2008.

On November 14, 2008, plaintiffs filed a notice of appeal to the Sixth Circuit. On appeal, the Sixth Circuit vacated this court's opinion regarding the construction of "constantly operative," substituted its own construction as described above, and vacated the finding of invalidity of claims 5 and 12 of the '284 patent. On July 29, 2009, the Sixth Circuit remanded the case for further proceedings.

On February 22, 2010, the parties filed a joint motion for entry of consent judgment. On March 2, 2010, the court entered consent judgment in favor of defendant and against plaintiff as to all remaining claims. On March 16, 2010, Alamo moved to declare this case exceptional pursuant to 35 U.S.C. § 285 ("§ 285") and for attorney's fees pursuant to that section. Plaintiffs oppose Alamo's motion.

II.

Section 285 of Title 35, governing patents, provides in its entirety, "The court in exceptional cases may award reasonable attorney fees to the prevailing party." "Exceptional circumstances" incorporates "concepts of fraud, malice, bad faith and other similar concepts." *Deyerle v. Wright Mfg. Co.*, 496 F.2d 45, 54 (6th Cir. 1974) (quoting *Hoge Warren Zimmermann Co. v. Nourse & Co.*, 293 F.2d 779, 784 (6th Cir. 1961)). "Where . . . the patentee is manifestly unreasonable in assessing infringement, while continuing to assert infringement in court, an inference is proper of bad faith, whether

grounded in or denominated wrongful intent, recklessness, or gross negligence.” *Eltech Sys. Corp. v. PPG Indus., Inc.*, 903 F.2d 805, 811 (Fed. Cir. 1990). “A frivolous infringement suit is one which the patentee knew or, on reasonable investigation, should have known, was baseless.” *Digeo, Inc. v. Audible, Inc.*, 505 F.3d 1362, 1369 (Fed. Cir. 2007) (quoting *Haynes Int'l Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1579 (Fed. Cir. 1993)). The burden is on the party moving for fees to prove by clear and convincing evidence that the case is exceptional. *Eltech*, 903 F.2d at 811. At no point does the burden shift to the opposing party to prove that it acted properly or acted in good faith. *Digeo*, 505 F.3d at 1368.

The award of fees is within the discretion of the trial court. *Campbell v. Spectrum Automation Co.*, 601 F.2d 246, 251 (6th Cir. 1979). Such an award is intended to compensate a prevailing party for costs that it would not have occurred absent the wrongful conduct of the other party. *Id.* A trial court’s award of attorney’s fees in a patent case will be upheld “if the trial court specifically finds conduct that is unfair, in bad faith, inequitable or unconscionable.” *Deyerle*, 496 F.2d at 55.

Ordinarily, a court will award attorneys fees pursuant to § 285 after a full trial on the merits, as this “will allow the court to dispose of the request on the basis of the record, since the issues relevant to that determination will have been brought out at trial.” *Campbell v. Spectrum Automation Co.*, 601 F.2d 246, 252 (6th Cir. 1979). A court may, however, dispose of a request for attorney’s fees pursuant to § 285 without a trial, such as upon a motion for summary judgment, although this may require the taking

of additional evidence, including an adversary hearing.³ *Id.* (citing *W. L. Gore & Associates, Inc. v. Oak Materials Group, Inc.*, 424 F. Supp. 700, 702 (D. Del. 1976)).

Alamo contends that filing and maintaining this action was frivolous because plaintiffs (1) ignored material claim elements when it was facially apparent that they could not prove infringement as to those elements and (2) asserted a construction of a claim term expressly rejected by the court. Alamo further contends that plaintiffs filed this action recklessly because they failed to perform a requisite investigation by applying the claims of every patent to the accused devices and by concluding that there was a reasonable basis for finding the infringement of at least one claim. In sum, Alamo asserts that plaintiffs filed this action in bad faith, with “no reasonable ground to believe that [they] might prevail in the action.” *Campbell*, 601 F.2d at 253. Plaintiffs assert that they had reasonable grounds to believe that Alamo infringed on the ‘284 patent when it filed the case and abandoned claims timely, given the progress of the litigation.

To determine whether the court should grant Alamo’s motion to declare the case exceptional and award attorney’s fees, the court must determine, first, whether plaintiffs’ had reasonable ground to believe that Alamo infringed on the ‘284 patent and did not continue to frivolously maintain patently unwarranted claims as the litigation progressed. The following section examines that question.

III.

Section 271(a) of the Patent Act provides: “Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented

³ Plaintiffs argue that a court may not declare a case exceptional and award attorney’s fees absent a trial on the merits. *Campbell* suggests otherwise.

invention, within the United States . . . during the term of the patent therefor, infringes the patent." 35 U.S.C. § 271(a). To determine whether there is infringement, a court should conduct a two-step analysis. *Kahn v. General Motors Corp.*, 135 F.3d 1472, 1476 (Fed. Cir. 1998). First, the court must construe the claims to determine their scope. Second, the court must compare the claims to the accused device. "To establish literal infringement, a plaintiff must demonstrate that every limitation in the claim is literally met by the accused device." *Id.* Thus, literal infringement exists when the claim, as construed by the court, reads on the accused device exactly. *Engel Indus., Inc. v. Lockformer Co.*, 96 F.3d 1398, 1405 (Fed. Cir. 1996). A defendant does not avoid infringement merely by adding features or components in addition to those required by the claims. See *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 865 (Fed. Cir. 1985), overruled on other grounds, *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059 (Fed. Cir. 1998). Plaintiff must demonstrate by a preponderance of the evidence that "every limitation of the claim is literally met by the accused device." *Kahn*, 135 F.3d at 1476.

As described earlier, this court and the Sixth Circuit already have construed the relevant claims in the '284 patent. The court must determine, therefore, whether plaintiffs had reasonable grounds to believe that every limitation in Claim 5 and Claim 12 of the '284 patent was literally met by the accused devices.

A. *The accused Tiger mowers*

Plaintiffs allege that mowers made by Tiger Corporation infringed Claims 5 and 12 of the '284 patent. Plaintiffs' allegations are directed specifically toward a brake valve assembly mounted on the mowers between the pump and motor of the accused

mowers. See Figures 2 "On" and 2 "Off," attached. These figures schematically depict a simplified version of the hydraulic circuit for the accused Tiger mowers. The circuit includes a pump (P), a motor (M), a reservoir tank (T), and the Tiger brake valve assembly. The circuit operates as follows. The pump pumps hydraulic fluid into the brake valve assembly, which channels the fluid flow either to the motor, thereby driving the motor, or to the tank by way of the bypass line. In the latter case, the fluid bypasses the motor. This type of system is called an "open loop" system, because the fluid leaves the pump and eventually is captured by a tank, rather than returning directly to the pump.

The brake valve assembly consists of two types of fluid lines and three types of valves. The solid lines in Figure 2 depict main fluid lines, while the dashed lines represent pilot lines. Pilot lines have a relatively small diameter. Their purpose is to control the valves in the system by communicating small differences in pressure from one part of the system to another. To understand the differing types of valve and their operation, the system must be examined in both its "on" and "off" configurations.

The solenoid valve is manually controlled by the operator. When the operator moves the solenoid valve to the "off" position, the solenoid valve's left chamber moves into the dashed pilot circuit. See Figure 2, "Off" configuration. This biases logic valve 2B to close and logic valve 2A to open. When this happens, hydraulic fluid travels from the pump, through logic valve 2A, through the bypass line, and into the tank. Thus, in the "off" position, fluid bypasses the motor. When the operator moves the solenoid valve to the "on" position, Figure 2, "On" configuration, the solenoid valve's right chamber moves into the pilot circuit. This biases logic valve 2A to close and logic valve

2B to open, thereby creating a fluid line from the pump, up fluid line A, through the motor, and down fluid line B, through logic valve 2B, and to the tank. This causes the motor to turn over.

Figure 2 "Off", attached, illustrates what happens when the motor decelerates. While in the "on" configuration with the motor turning over, the operator switches the solenoid valve to the "off" position. As noted earlier, this biases logic valve 2A to open. When this happens, fluid now flows through logic valve 2A, through the bypass line, and into the tank, thus bypassing the motor. However, because the motor and cutting blades have rotational inertia, they continue drawing fluid from the pump for a short time, even though there is an open path from the pump to the tank. While this is happening, switching the solenoid valve to the "off" position biases logic valve 2B to close. Despite this bias, for a short time fluid leaving the motor and the operation of the brake relief valve cause logic valve 2B to "chatter" back and forth between the open and closed positions. This "chatter" creates a fairly constant back pressure in fluid line B, rapidly decelerating the motor. As this occurs, the flow of fluid through logic valve 2A and the bypass line increases until all the fluid is flowing through that path. At that point, logic valve 2B has fully closed, and the system is in the "off" configuration of Figure 2.

The brake valve assembly also includes a "makeup" line, a main fluid line that permits a flow of fluid in one direction only. The check valve in the makeup line allows fluid in main line B to flow to main line A. This happens if the motor is not receiving enough fluid from the pump, preventing cavitation from a shortage of fuel to the motor.

B. The accused Alamo mowers

Unlike Tiger mowers, Alamo Mowers use a "closed-loop" system, in that the hydraulic fluid coming from the pump passes through the motor and then returns directly to the pump, rather than emptying into a tank. Figure 4, attached, schematically depicts the system used by the Alamo mowers. As can be seen in Figure 4, the Alamo mower system includes a pump (P), a main fluid line (A) leading away from the pump, a motor (M) at the receiving end of fluid line A, and a main fluid line (B) leading away from the motor and returning the fluid directly to the pump.

The Alamo mowers use a pump manufactured by Eaton Corporation, model 72400. The pump is a "displacement piston pump." This means that the operator's movement of a servo piston alters the angle of a swash plate (2) in the pump, seen in Figure 3. The angle of the swash plate determines how much fluid moves or is "displaced" in the fluid lines.

The Alamo mower system also includes a main fluid line (C) that communicates between lines A and B. Line C includes cross relief valves (CR) that keep fluid from flowing in line C until the pressure differential between lines A and B rises to a certain point.⁴

Figures 4 and 5, attached, show a side cutaway view of an Eaton model 72400 pump with the swash plate positioned at different angles. The swash plate has a number of pump pistons attached to it, two of which can be seen in the schematic. As can be seen, a slight movement of the servo piston alters the angle of the swash plate. When the plate is angled as in Figure 5, rotation of the plate causes the pistons to

⁴ The system also includes fluid lines (D) that communicate between lines A and B near the motor. These lines are not relevant to the instant action.

stroke in a complementary fashion, such that the instroke of one piston matches the outstroke of its counterpart, thus causing fluid to flow through the system. The greater the angle of the swash plate, the greater the depth of the pistons' stroke, and the greater the flow of fluid. When the swash plate is in a neutral position, as in Figure 5, the pistons do not stroke when the plate rotates, and there is no displacement of fluid. When the operator moves the position of the swash plate from an angled to a neutral position, deceleration occurs in the system.

C. *Whether it was unreasonable to assert that the Tiger and Alamo mowers infringed on the '284 patent*

Alamo contends that filing and maintaining this action was frivolous, in part, because plaintiffs ignored material claim elements that facially were not present on the accused Tiger and Alamo mowers. Consequently, according to Alamo, plaintiffs should have known that they could not demonstrate by a preponderance of the evidence that every limitation in the relevant claims were literally met by the accused Tiger and Alamo mowers. In particular, Alamo points to limitations in Claims 5 and 12 as facially absent from the Tiger mowers and a limitation in Claim 12 as facially absent from both Tiger and Alamo mowers.

Claims 5 and 12 of the '284 patent describe a device as follows:

5. A hydraulic motor deceleration system comprising:
 - a pump;
 - a hydraulic motor;
 - a hydraulic circuit interconnecting said pump and said motor, said circuit comprising:
 - a first hydraulic fluid line extending between said pump and said motor,
 - a first control valve located in said first fluid line for controlling the communication of fluid between said pump and said motor,
 - a second hydraulic fluid line interconnecting said control valve and said motor,

a third hydraulic fluid line interconnecting said first and second hydraulic lines,
a relief valve located in said third fluid line, and
a flow control orifice located in said third fluid line, said flow control orifice being constantly operative, said third fluid line allowing a flow of hydraulic fluid from said second fluid line to said first fluid line even when said control valve is in a closed position, as regulated by said relief valve, and wherein said flow control orifice limits the speed with which such flow takes place.

* * * *

12. A method for decelerating a hydraulic motor when the motor is disconnected from a hydraulic pump, said method comprising:
providing a hydraulic circuit interconnecting the motor and the pump, said hydraulic circuit including first and second hydraulic fluid lines which communicate, respectively, with an inlet and an outlet of said motor and a first valve which controls a flow of hydraulic fluid from said pump to said motor through at least one of said first and second fluid lines;
blocking a flow of fluid from said motor to said pump;
allowing a flow of fluid between said first and second fluid lines without a loss of fluid thereby enabling said motor to continue turning; and
allowing the speed of rotation of said motor by restricting the rate of flow of fluid through said first and second fluid lines wherein said step of slowing comprises the subsidiary steps of:
providing a third hydraulic fluid line which selectively communicates said first and second fluid lines as regulated by a relief valve; and
providing a flow control orifice in said third fluid line which selectively communicates said first and second fluid lines as regulated by a relief valve; and
providing a flow control orifice in said third fluid line, said flow control orifice being constantly operative to throttle fluid flow through said fluid line.

'284 patent, col. 8, line 48-col. 9, line 4; col. 10, lines 1-26. Alamo contends that plaintiffs filed and maintained this action frivolously because plaintiffs (1) ignored the requirement in Claim 12 that during deceleration the flow of fluid between the first and second fluid lines occur without a loss of fluid; (2) ignored the requirement in Claims 5 and 12 that a relief valve regulate the flow between the first and second fluid lines; and (3) maintained a construction of Claim 12's "when the motor is disconnected from the hydraulic pump" after that construction was rejected by the court.

1. *Whether plaintiffs ignored the requirement in Claim 12 that during deceleration the flow of fluid between the first and second fluid lines occur without a loss of fluid*

Alamo contends that plaintiffs' allegation of infringement against the Tiger mowers ignored the requirement in Claim 12 that during deceleration the flow of fluid between the first and second fluid lines occur without a loss of fluid. Plaintiffs respond that the Tiger mower schematic reasonably justified their belief that the Tiger mower permitted deceleration without loss of fluid.

The system described by the '284 patent allows a flow of fluid between the first and second fluid lines without a loss of fluid. Indeed, the restriction, "without a loss of fluid," was added to Claim 12 by a narrowing amendment to distinguish it from United States Patent No. 4,732,076 ("Ewald"). In arguing that Claim 12, revised by the addition of "without a loss of fluid," was patentable over Ewald, Cartner argued that if Ewald permitted a flow of hydraulic fluid between the two main fluid lines, "then the hydraulic fluid would flow through a restrictor orifice in a center envelope of the first valve 1 and then into sump 6 through line T." First Amendment, '284 patent ("First Amendment"), Declaration of Steven M. Auvin ("Auvin Declaration"), Doc. No. 54, p. 16. In that case, "there would not be a circulation of fluid without a loss of fluid between the first and second fluid lines as is recited in claim [12]. Accordingly, it is respectfully submitted that claim [12] patentably defines over Ewald." *Id.* Consequently, "a circulation of fluid without a loss of fluid between the first and second fluid lines" is a defining limitation of the '284 patent.

Alamo argues that plaintiffs frivolously initiated and maintained this action because even a cursory glance at the Tiger mower system reveals that it is impossible

for deceleration to occur without a loss of fluid. Looking at Fig. 6, a comparison of the Ewald and Tiger systems, when the Tiger mower is in the “off” position (the schematic on the right in Fig. 6), most of the fluid exits the system into the tank (see the oval dashed lines). This, Alamo argues, is a feature equivalent to the valve in the third line of the Ewald system (the schematic on the left in Fig. 6), containing an overflow line into a tank (see the rectangular dashed lines). Consequently, Alamo continues, because the Tiger mower contains a feature of the Ewald system that plaintiffs’ Claim 12 specifically disclaims, it was frivolous for plaintiffs to assert that the Tiger mower infringed on the ‘284 patent.

Plaintiffs respond that on the basis of the Tiger mower schematic, and before they had an opportunity to depose experts regarding the system, they believed that the Tiger mower permitted deceleration without loss of fluid. Their responses to interrogatories elaborated on this belief as follow:

During motor braking, hydraulic fluid flows through a sub-circuit that bypasses the valve component 2B, this sub-circuit including (a) fluid lines that pass through the valve component designated as 2 and RV08-22H-0-N-35/26 in AGI00288, (b) a portion of the main return line downstream of the valve component 2B, and (c) a fluid line connecting the main return line to the main supply line via a check valve designated as 7, 8 in AGI00288.

Plaintiffs’ Amended Responses to Alamo’s Interrogatories Nos. 1 and 2, Auvil Declaration, Exh. 16, attachment B, p. 2. According to plaintiffs, this path “could allow recirculation of hydraulic fluid from the motor outlet to the motor inlet through a line connecting the two via a check valve.” Response at 10. Consequently, plaintiffs assert, “When such recirculation occurred, there would be no loss of the recirculating fluid.” *Id.*

The plaintiffs’ response contradicts the requirements of Claim 12. Regardless of

the supposed route by which they initially believed fluid might recirculate,⁵ plaintiffs ultimately assert that there is no loss of fluid because there is no loss of fluid with respect to that fluid which recirculates. This reduces the limitation of “without loss of fluid” in Claim 12 to near meaninglessness. According to this interpretation, as long as some fluid recirculates, there is no loss of fluid. But adopting that interpretation would fail to distinguish the device described by the ‘284 patent from Ewald, since by that interpretation there would be no “loss of fluid” in Ewald’s device either. As the limitation “without a loss of fluid” was added to distinguish the ‘284 patent from Ewald, this is not an acceptable result.

It is impossible to look at the orientation of the Tiger mower when it is decelerating and believe that there is no loss of fluid. See Fig. 2 “Off.” The position of logic valve 2A in the “off” state ensures that the main flow of fluid in the system moves from the pump, through the bypass line, and exits to a tank. To ignore that obvious, main flow of fluid while constructing convoluted possible paths by which recirculation might take place is unreasonable. Consequently, plaintiffs’ argument is entirely unconvincing.

Alamo demonstrates by clear and convincing evidence that plaintiffs were unreasonable in asserting that there could be a flow of fluid between the first and second main fluid lines in the Tiger mowers, as would occur during deceleration, “without a loss of fluid.” As plaintiffs were required to demonstrate that the accused Tiger mowers infringed every limitation in the ‘284 patent, and because plaintiffs were

⁵ The ostensible “third fluid line” described by plaintiffs is itself implausible, given the obviousness of the makeup line as the equivalent of the “third fluid line” in the ‘284 patent.

unreasonable in asserting that the Tiger mowers could decelerate without a loss of fluid, plaintiffs action for patent infringement against Alamo was frivolous in that respect.

2. *Whether plaintiffs ignored the requirement in Claims 5 and 12 that a relief valve regulate the flow between the first and second fluid lines*

Alamo argues that plaintiffs' allegations of infringement against the Tiger mower ignored the requirement in Claims 5 and 12 that a relief valve regulate the flow between the first and second fluid lines. Plaintiffs respond that the schematics of the Tiger mower indicated structures which they reasonably believed might be the relief valve described in Claims 5 and 12.

Claim 5 of the system described by the '284 patent, Fig. 1, includes the following fluid lines and relief valve:

a first control valve located in said first fluid line for controlling the communication of fluid between said pump and said motor,
a second hydraulic fluid line interconnecting said control valve and said motor,
a third hydraulic fluid line interconnecting said first and second hydraulic lines,
a relief valve located in said third fluid line, and
a flow control orifice located in said third fluid line, said flow control orifice being constantly operative, said third fluid line allowing a flow of hydraulic fluid from said second fluid line to said first fluid line even when said control valve is in a closed position, as regulated by said relief valve, and wherein said flow control orifice limits the speed with which such flow takes place.

Claim 12 refers to the same third fluid line and relief valve:

providing a third hydraulic fluid line which selectively communicates said first and second fluid lines as regulated by a relief valve; and
providing a flow control orifice in said third fluid line which selectively communicates said first and second fluid lines as regulated by a relief valve; and
providing a flow control orifice in said third fluid line, said flow control orifice being constantly operative to throttle fluid flow through said fluid line.

The parties agreed that the claims should be construed to mean the "[r]elief valve

controls whether and how much fluid may flow" Joint Submission of Claim Construction Charts, Exh. A, Auvil Declaration, Exh. 17, p. 7.

In their prosecution of the '284 patent, Cartner pointed to "a third hydraulic fluid line, as regulated by a relief valve" as distinguishing the device described by the '284 patent from the devices of Stoufflet *et al.*, Ewald, Pachins, and Schexnayder. First Amendment, Declaration of Auvil in support of Alamo's Reply, Doc. No. 58, Exh. 1, pp. 16-17. Consequently, "a third hydraulic fluid line, as regulated by a relief valve," a valve which "controls whether and how much fluid may flow" in the third hydraulic fluid line, is a defining limitation of the '284 patent.

Alamo argues that plaintiffs could not have reasonably believed that the Tiger mowers included a relief valve which regulated the flow between the first and second fluid lines:

[N]o colorable argument could be made on this claim element. Plaintiffs alleged that in the Tiger Mowers, the "brake relief valve" (located in the pilot circuitry associated with Logic Valve 2B) corresponds to the "relief valve" in claims 5 and 12 and that the makeup line corresponds to the "third" fluid line of those claims. Yet Mr. Cartner admitted that whether and how much fluid is recycled through the makeup line (in lieu of traveling to the tank) depends on various factors in the system quite apart from the brake relief valve, including: (1) the "need" of the motor at the motor inlet (e.g., to prevent "cavitation); (2) whether the operator shuts down the pump; and (3) the friction in the fluid lines. Plainly, then, if fluid flowing through the makeup line (*i.e.*, the "third fluid line") depended on these other factors, the brake relief valve does not control "whether and how much" fluid flowed through it.

Memorandum in Support at 11-12 (footnotes omitted).

Plaintiffs' response to this argument is to point to two ostensible relief valves in the Tiger mowers which they contend they once believed might control flow through a third fluid line. The first ostensible relief valve corresponds with the "brake relief valve"

identified in Fig. 2:

[H]ydraulic fluid is flowing through a flow control orifice and then through a relief valve. If the relief valve were not opened, there would be no flow through the orifice, so flow through that orifice (and the remainder of what plaintiffs considered to be the third fluid line) necessarily is regulated by the relief valve.

Response at 12. In this case, the “third fluid line” corresponds to the meandering ostensible fluid path described by plaintiffs in their response to Alamo’s argument regarding “without loss of fluid.” See Fig. 7.

This argument is not reasonable. Setting aside the implausibility of the convoluted route described by plaintiffs as the “third fluid line,” the Brake Relief Valve in Fig. 2 does not “control whether and how much fluid may flow” in any hydraulic fluid line that communicates between the first and second fluid lines. Regardless of which route one selects containing the brake relief valve, fluid flowing from logic valve 2B will always enter the makeup line from the second fluid line and enter the first fluid line. No action by the brake relief valve can affect this flow from the second fluid line to the first fluid line. Consequently, it cannot reasonably be believed that the brake relief valve “controls whether and how much fluid may flow” in the third hydraulic fluid line, however the third fluid line is constituted.

Plaintiffs’ response regarding infringement and the Alamo mowers is even less plausible:

Similarly, under plaintiffs’ original view of the operation of the Eaton hydrostatic pump used in the Alamo closed-circuit hydraulic mower systems (as described above in Section II.B.) [see Fig. 3], the cross-relieving that took place during deceleration of the mower blades was accomplished by one relief valve cartridge of the Eaton Model 72400 pump opening up in response to high pressure from the motor acting as a pump and allowing fluid to flow from the motor outlet back to the motor inlet via what was perceived to be a flow control orifice in the opposite relief valve cartridge of the Eaton pump. Consequently,

the flow through the third fluid line was regulated by a relief valve.

Response at 12. Here, the nature of the “third fluid line” is entirely mysterious, since the “flow” described as crossing from the first fluid line to the second fluid line is completely internal to the Eaton pump. Indeed, there is no third “line” at all, merely a set of cross-relief valves within the pump. See Figs. 4 and 5. To denominate this a “third fluid line” is not reasonable.

No one viewing the schematics for the Tiger mower or the Alamo mower could reasonably believe that the system contained a relief valve that controlled whether and how much fluid could flow in a third fluid line communicating between the first fluid line and the second fluid line. Plaintiffs’ allegations of infringement in light of this fact were frivolous.

3. *Whether plaintiffs maintained a construction of Claim 12’s specification “when the motor is disconnected from the hydraulic pump” against the Tiger and Alamo mowers after that construction was rejected by the court*

Alamo also argues that plaintiffs’ position was frivolous because they continued to assert a meaning for Claim 12’s specification “when the motor is disconnected from the hydraulic pump” against the Tiger and Alamo mowers after that construction was rejected by the court. Plaintiffs respond that although an assertion that Alamo’s system literally infringed this requirement of claim 12 would have been frivolous, their intended claim, that Alamo’s system infringed the requirement by application of the doctrine of equivalents, was not frivolous.

If an accused device does not literally infringe a patent claim, infringement may still be established under the doctrine of equivalents. See *Warner- Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28 (1997). Under this doctrine, infringement is

established if "there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented invention." *Id.* at 21. "Each element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole." *Id.* at 29; see also *Kahn v. General Motors Corp.*, 135 F.3d 1472, 1478 (Fed. Cir. 1998). Infringement under the doctrine of equivalents requires only that the accused element have an "equivalent function" to an element of the patent claim. See *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1310 (Fed. Cir. 1998).

The doctrine of equivalents has limits, however. If equivalency is read too broadly, it would effectively read an element out of a claim. This would enlarge the patent beyond the scope of its claims allowed by the Patent Office. *Warner- Jenkinson*, 520 U.S. at 29. The doctrine of equivalents, therefore, is restricted by the vitiation doctrine, which bars finding equivalents when the equivalent would effectively vitiate a claim element.⁶ *Id.*

In the instant case, Claim 12 describes "[a] method for decelerating a hydraulic motor when the motor is disconnected from a hydraulic pump . . ." On May 21, 2008, the court construed "disconnected" to mean "the pump and motor are not connected, such that fluid cannot flow from the pump to the motor." Memorandum and Order at 19. The court added, "Mr. Cartner's argument that the prosecution history indicates the

⁶ For an excellent discussion of the underlying relationship between the two doctrines, see *Nystrom v. Trex Co., Inc.*, 580 F.3d 1281, 1286-87 (Fed. Cir. 2009) (Rader, J., additional views).

term to mean ‘the pump is not delivering pressurized hydraulic fluid to the motor’ is unpersuasive as a matter of claim construction and law.” *Id.*

On August 8, 2008, plaintiffs provided Alamo Plaintiffs’ Amended Responses to Interrogatory Nos. 1 and 2, Auvil Declaration, Doc. No. 54, Exh. 16, appended to which was Claim Chart U.S. Patent No. 5,197,284 (“Claim Chart”), Exh. B, a table describing plaintiffs’ particular allegations of infringement as to the elements of Claims 5 and 12. The Claim Chart asserted the following as an infringement on the Claim 12 element, “disconnected”: “The Tiger/Axtreme/Hydro systems have a hydraulic motor operated by a hydraulic pump and, based on plaintiffs’ current knowledge and belief, the motor in such systems is decelerated when hydraulic fluid flow from the pump to the motor is stopped in the following manner . . .” Claim Chart at B-2. The remainder of the chart and reference to Figs. 2 and 3 make clear that fluid lines between the pump and motor would remain unblocked in both the Tiger and Alamo mowers, providing a clear path from the pump to the motor, although no pressurized hydraulic fluid would be delivered to the motor in either system. The very construction rejected by the court as unpersuasive as a matter of claim construction and law describes this state of the Tiger system. Consequently, if plaintiffs were asserting literal infringement on the ground of infringement of claim element “disconnected” in Claim 12, they would be asserting a claim directly contrary to the court’s claim construction. This would be, by any standard, a frivolous claim.

Plaintiffs now assert the following in defense of their persistence in asserting infringement of the claim element “disconnected”:

Plaintiffs were prepared to argue that, in the context of a hydraulic-drive system,

physically disconnecting the motor from the pump was *equivalent* to (a) diverting fluid from the pump to a tank and (b) stopping actuation of hydraulic flow from the pump by moving the hydrostatic pump's swash plate to the neutral position. In either case, the flow of pressurized hydraulic fluid from the pump to the motor would stop.

Response at 13.

There are two problems with this argument. First, the argument is clearly barred by the vitiation doctrine. To adopt such an equivalency would vitiate the claim element "disconnected." The elimination of that claim element risks capturing within the metes of the '284 patent art that does not now infringe on the patent. This would be a prohibited expansion of the patent beyond the scope allowed by the Patent Office.

Second, plaintiffs have waived any argument regarding infringement pursuant to the doctrine of equivalency. On January 18, 2008, plaintiffs responded to Alamo's First Set of Interrogatories. Interrogatories 1 and 2 asked the following: "1. Identify the asserted patent claims. . . . 2. Describe in detail how the asserted patent claims apply or correspond to each Accused Product, providing a claim(s) chart explaining how each limitation of the asserted patent claims is present in each Accused Product." Plaintiffs disclaimed sufficient knowledge of Alamo's cutting systems to describe in detail how the '284 patent claims apply to each of Alamo's systems until it received additional discovery. Plaintiffs did, however, provide a claims chart detailing their allegations of infringement related to the '479 patent. See Motrim's Responses to Alamo's First Set of Interrogatories, Motion *Instanter* to Consider Additional Evidence in Support of Defendant's Motion ("Motion *Instanter*"), Doc. No. 66, Exh. 29, pp. 3-4.

On August 8, 2008, plaintiffs filed Plaintiffs' Amended Responses to Alamo's Interrogatories Nos. 1 and 2, in which they described their allegations of infringement

with respect to Claims 5 and 12 the '284 patent and provided a claims chart detailing those allegations. The Claim Chart included only allegations of literal infringement. Neither the interrogatory responses nor the Claim Chart gave any indication that plaintiffs alleged infringement pursuant to the doctrine of equivalents. Moreover, the record does not contain any indication, nor do plaintiffs aver, that plaintiffs alleged infringement pursuant to the doctrine of equivalents prior to the parties' settlement. As plaintiffs had a duty to update their interrogatory responses and failed to do so with respect to allegations of infringement pursuant to the doctrine of equivalents, such allegations have been waived.

As described above, any allegation of literal infringement of the element "disconnected" in Claim 12 after the court's May 21, 2008 Memorandum and Order was frivolous. Plaintiffs, nevertheless, made such an allegation on August 8, 2008 in Claim Chart B-2.

To summarize, plaintiffs' allegations of infringement against the Tiger mowers were frivolous because (1) plaintiffs unreasonably ignored the requirement in Claim 12 that during deceleration the flow of fluid between the first and second fluid lines occur without a loss of fluid, and (2) plaintiffs unreasonably ignored the requirement in Claims 5 and 12 that a relief valve regulate the flow between the first and second fluid lines. In addition, plaintiffs' allegations of infringement against both the Tiger and Alamo mowers were frivolous because plaintiffs unreasonably maintained a construction of Claim 12's specification "when the motor is disconnected from the hydraulic pump" against the Tiger and Alamo mowers after that construction was rejected by the court. Alamo has demonstrated by clear and convincing evidence that plaintiffs knew or should have

known that these arguments were baseless. This permits a finding of bad faith sufficient to find exceptional circumstances justifying an award of attorney fees pursuant to § 285.

V

In its memorandum in support of its motion for attorney's fees, Alamo noted that it filed its motion for attorneys fees, including stating a "fair estimate" of the amount of fees as \$530,000, pursuant to Fed. R. Civ. P. 54(d)(2)(B). That rule permits the court to determine the amount of fees subsequent to a determination as to liability.

In the event that Judge Wells allows an award of fees, the parties shall, within ten days of Judge Wells' order, jointly contact this court's deputy, Wanda Golden, at (216) 357-7130 to set a scheduling conference for adjudication of the amount of the award.

Date: March 30, 2011

/s/ Nancy A. Vecchiarelli
U.S. MAGISTRATE JUDGE

OBJECTIONS

Any objections to this Report and Recommendation must be filed with the Clerk of Courts within fourteen (14) days after the party objecting has been served with a copy of this Report and Recommendation. Failure to file objections within the specified time may waive the right to appeal the District Court's order. See *United States v. Walters*, 638 F.2d 947 (6th Cir. 1981). See also *Thomas v. Arn*, 474 U.S. 140 (1985), reh'g denied, 474 U.S. 1111.